What is claimed is:

1. A method for forming an optical blank, the method comprising:
providing soot particles;
spray-drying the soot particles to form an agglomerate;
dry-pressing the agglomerate to form a green body; and
heating the green body to form a glass object.

2. The method of claim 1, wherein the step of providing soot particles includes forming soot particles as a by-product of a flame hydrolysis process.

3. The method of claim 2, further comprising the step of cleaning the green body to remove impurities.

4. The method of claim 3, wherein the step of cleaning further comprises:
disposing the green body in a high temperature chlorine gas atmosphere, the high temperature being lower than a sintering temperature; and
treating the green body by allowing the chlorine gas to react with the impurities for a pre-determined time.

5. The method of claim 4, wherein the high temperature is between 700°C and 1100°C.

6. The method of claim 1, wherein the step of spray-drying further comprises:
mixing the soot particles with water to form a slurry;
discharging the slurry through a nozzle to form a plurality of slurry droplets; and
drying the plurality of droplets to form the agglomerate.

7. The method of claim 6 wherein the slurry does not include a dispersant.

8. The method of claim 7, wherein the agglomerate includes a plurality of silica containing solid spheres.

9. The method of claim 8, wherein the plurality of silica containing solid spheres have a diameter substantially within the range of 10 to 200 microns.

10. The method of claim 6, wherein the slurry includes a dispersant.

11. The method of claim 10, wherein the agglomerate includes a plurality of silica containing hollow spheres.

12. The method of claim 11, wherein the plurality of silica containing hollow spheres have a diameter substantially within the range of 10 to 200 microns.

13. The method of claim 10, wherein the dispersant includes ammonia hydroxide.

14. The method of claim 6, wherein the slurry is substantially a 50 weight percent soot suspension.

15. The method of claim 6, wherein the slurry includes a binder agent.

16. The method of claim 15, wherein the binder agent is substantially a 3 weight percent polyethylene glycol suspension.

17. The method of claim 1, wherein the agglomerate includes granules having a diameter substantially within the range of 10 to 200 microns.

18. The method of claim 1, wherein the agglomerate has a bulk density in the approximate range between 30 - 50%.

19. The method of claim 1, wherein the step of dry-pressing includes dry pressing the agglomerate at pressure substantially in the range between 1,000Psi and 10,000Psi.

20. The method of claim 19, wherein the step of dry-pressing includes the step of forming pellets.

21. The method of claim 1, wherein the step of heating includes the step of sintering the green body.

22. The method of claim 21, wherein the step of sintering the green body is performed at a temperature above 1100°C.

23. The method of claim 22, wherein the green body is sintered at a temperature of approximately 1400°C.

24. The method of claim 22, wherein the green body is sintered at a temperature of approximately 1500°C.

25. The method of claim 21, wherein the step of sintering further comprises:

disposing the green body in a high temperature chlorine gas atmosphere, the high temperature being lower than a sintering temperature; and

treating the green body by allowing the chlorine gas to react with the impurities for a pre-determined time.

26. The method of claim 21, wherein the step of sintering is performed in a substantial vacuum.

27. The method of claim 21, wherein the step of sintering is performed in a helium atmosphere.

28. The method of claim 1, wherein the step of heating includes heating the green body to a temperature substantially within a range between 1350°C and 1800°C.

29. The method of claim 28, wherein the step of heating is performed in a vacuum chamber.

30. The method of claim 28, wherein the step of heating is performed in a helium atmosphere.